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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,638	10/27/2001	Hermann Rappenecker	870-003-140	6796

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EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,638

Applicant(s)

RAPPENECKER ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: . |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 14-25, 29-30 are rejected under 35 U.S.C. 102(e) as being anticipated by **De Wille et al. (US 6,167,338)**.

With respect to claims 14, **De Wille** discloses a method of operating an electric motor having a microprocessor that controls its commutation, said microprocessor having associated therewith a volatile memory and a nonvolatile memory, comprising the steps of:

- upon switch-on of the motor, loading an old operating data value from the nonvolatile memory into the volatile memory associated with the microprocessor (Col. 7, lines 43-47, i.e., flash memory corresponds to nonvolatile memory; Col. 8, lines 4-5 and 14-25), and saving the operating data value there as a variable (Col. 6, lines 39-42, i.e., adaptive values for adaptively changing variables);

updating the value of the variable in the volatile memory at predetermined points in time (Fig. 3, elements 7, 8, 9, 6; Col. 7, lines 49-55, i.e., if an error occurs the system is reset and the relevant operational data contained in the flash memory are copied into the RAM memory. Please note that every time an error occurs a reset function takes place and the operational data is copied into the RAM); and replacing, at predetermined intervals, said operating data value stored in the nonvolatile memory by a current value of said variable (Col. 7, lines 57-60, i.e., a predetermined interval corresponds to each time of switching off. If the control system is switched off, the operational data, adaptive data, status data etc. and possibly also the changed production data are stored in the flash memory).

As for claims 15-24, **De Wille** further discloses,

- performing said step of updating the value of the variable in the volatile memory during time intervals between commutation operations (Fig. 3, elements 7, 8, 9, 6; Col. 7, lines 49-55 and lines 57-60. When switching on and reset, the operational data is copied into RAM, see Col. 7, lines 53-55 and Col. 8, lines 4-5 and lines 19-25);
- performing said loading of said operating data value from said nonvolatile memory into said volatile memory each time a reset of said microprocessor is performed (Col. 7, lines 53-55);
- as part of a reset operation, transferring the present value of the variable as the old operating data value into the nonvolatile memory (Col. 7, lines 67- Col. 8, lines 1-2; Fig. 3, element 7, Store status recording in flash for RESET);

- polling the operating data value saved in the nonvolatile memory via a data connection (Fig. 3);
- performing said polling of the operating data under control by said microprocessor (Fig. 3; Col. 3, lines 47-55; Col. 8, lines 15-19);
- a temperature sensor is associated with the motor; and further comprising the step of saving an extreme value (OD TM) of the temperature (T) sensed by said temperature sensor as an operating data value (FIG. 8: OD TMAX) in the nonvolatile memory (Col. 12, lines 5-10; Col. 4, lines 5-14; Col. 8, lines 39-43);
- an A/D converter which converts an analog voltage into a digital value (it is inherent that A/D converter is included in a control system, see Col. 7, lines 57-60, i.e., the ignition switch is switched off would require an A/D); and further comprising the step of saving, as an operating data value in the nonvolatile memory, an extreme value (OD UBM) of the voltage converted by said A/D converter (Col. 12, lines 5-10, i.e., the system voltage; Col. 4, lines 8-14, i.e., to determine a case in which the operating values have been exceeded);
- saving a value (OD COMM) corresponding to the number of commutations as an operating data value in the nonvolatile memory (Col. 6, lines 41-42, i.e., counter data; Col. 6, lines 47-50);
- saving in the nonvolatile memory, a duration of operation (OD OH) of the motor as an operating data value (Col. 6, lines 41-42, counter data indicating the overall length of operation until now);

- upon switch-on of the motor, loading a plurality of operating data values from the nonvolatile memory into respective variables in the volatile memory (Col. 1, lines 21-26), and subsequently updating values of said variables, under control by said microprocessor (Col. 6, lines 39-42, i.e., adaptive values for adaptively changing variable).

Regarding to claims 25 and 29-30, **De Wille** discloses,

- An electric motor comprising a microprocessor which controls commutation of the motor (Col. 3, lines 47-55), a nonvolatile memory adapted to store motor operating data while said motor is off (Col. 6, lines 28-30, i.e. flash memory and lines 47-50, i.e., the counter data which indicate the overall length of the operation data are stored each time the control system or the motor vehicle is switched off; Col. 1, lines 21-24), and a volatile memory adapted to store motor operating data during operation of said motor (Col. 1, lines 24-26), and means, responsive to switch-on of said motor, for transferring said motor operating data from said nonvolatile memory to said volatile memory (Col. 8, lines 4-5 and lines 15-24);
- said nonvolatile memory is an electrically erasable programmable read only memory (EEPROM) and said volatile memory is a random access memory (RAM) (Col. 7, lines 39-40; Col. 1, lines 21-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **De Wille** in view of **Philips "About the I² C-Bus"**.

De Wille discloses the transmission of data between the flash memory and RAM or vice versa (Abstract, lines 3-13). However, **De Wille** fails to specifically disclose, with respect to claims 26-28, a I² C bi-directional data bus. But **Philips** discloses a bi-directional data bus such as I² C-Bus that has become a worldwide industry proprietary control bus (Page 1, paragraph 1). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **De Wille** to include the I² C-Bus as taught by **Philips** because it would provide high speed serial transfer rates for applications such as EEPROM and Flash memory (**Philips**, Page 1, paragraph 4, lines 4-7).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (703) 306-

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4768. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. Additionally, the fax phones for Art Unit 2125 are (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera
Patent Examiner
6/25/03


ALBERT W. PALADINI
PRIMARY EXAMINER